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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

020569-05801 (P202-1294-US)

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on January 7, 2008

Signature

Typed or printed name John Wilson Jones

Application Number

10/662,159

Filed

September 12, 2003

First Named Inventor

Lopez et al.

Art Unit

1713

Examiner

Helen Lee PEZZUTO

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

applicant/inventor.

assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

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Registration number if acting under 37 CFR 1.34

January 7, 2008

Date



Signature

John Wilson Jones

Typed or printed name

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.
Submit multiple forms if more than one signature is required, see below*.

*Total of 1 forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applicant:

Lopez et al

Filed: September 12, 2007

Serial No.: 10/662,159

For: Compositions for Thermal Insulation
And Methods of Using the Same



§ Group Art Unit: 1713
§
§
§ Examiner: Helen Lee Pezzuto
§
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§ Attorney Docket No.: 020569-05801
§ (P202-1294-US)

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APPLICANTS' REMARKS FOR PRE-APPEAL BRIEF REQUEST FOR REVIEW

The Examiner maintains the rejection of claims 1-25, 36-45, 47 and 48 under 35 U.S.C. § 103(a) as being unpatentable over the combined disclosures of U.S. Patent No. 5,785,747 (“*Vollmer*”) and U.S. Patent No. 6,581,701 (“*Heying*”) or U.S. Patent No. 4,664,816 (“*Walker*”) or U.S. Patent No. 4,836,940 (“*Alexander*”).

The issue presented is whether the Examiner has established a *prima facie* case of obviousness following the guidelines of *Graham, Co. v. John Deere Co.*, 383 U.S. 1, 86 S. Ct. 684, 15 L.Ed.2d 545 (1966), as affirmed by the Supreme Court in *KSR Int'l Co. v. Teleflex Inc.*, -- U.S. ---, 127 S.Ct. 1727, 1733-34, 167 L.Ed.2d 705 (2007). Applicants contend that the burden has not been met because one of ordinary skill in the art would not have been motivated to combine *Heying*, *Walker* or *Alexander* with *Vollmer* to render the claimed pumpable thermal insulating composition of Applicants.

Vollmer does not disclose a pumpable composition containing a water-superabsorbent polymer. Neither *Heying*, *Walker* nor *Alexander* discloses a pumpable composition containing a viscosifying polymer. The claims of Applicant require the presence of a water-superabsorbent polymer and a viscosifying polymer.

Vollmer is directed to a method of preventing fluid loss wherein a brine is thickened with

a viscosifier based composition to form a fluid loss control formulation or additive. “Fluid loss” in the art refers to the loss of the filtrate or the liquid portion of a fluid into the formation; the fluid being a mud, a brine or a fluid loss control pill. *See*, paragraphs 8 and 9 of the attached Declaration of Paul H. Javora, Ph.D (“Declaration”).¹

Each of *Heying*, *Walker* and *Alexander* are directed to lost circulation materials (“LCMs”). The fluid loss control method addressed in *Vollmer* and the LCM methodology of *Heying*, *Walker* and *Alexander* are two different and distinct approaches to control the loss of a fluid in a subterranean formation. *See*, paragraph 13 of Declaration.

The fluid loss control formulation of *Vollmer* is designed to be non-damaging. *See*, paragraph 9 of Declaration. LCMs are particulate materials designed to plug the formation and are used in well treatment processes when drilling fluid is literally lost (i.) into fractures induced by excessive mud pressures; (ii.) into pre-existing open fractures; or (iii.) into large openings with structural strength. LCMs cause severe formation damage. *See*, paragraph 8 of Declaration. “Damaging” LCMs are counter to the objectives of *Vollmer*.

Vollmer specifically addresses the need to prevent formation damage. For instance, the formulations of *Vollmer* are stated as not evidencing the compatibility problems seen in the prior art. *See*, paragraph 9 of Declaration. The incompatibility problems evidenced in the prior art, discussed in lines 32-67 of column 2 of *Vollmer*, include the formation of “fisheyes”, micro-gels and emulsions. For instance, *Vollmer* discusses the weaknesses of in prior art methodologies wherein “insolubilizers” and/or hydrocarbon solvents are used as a fluid loss control additive. One of the problems with these materials, however, is that organic phases often created formation-damaging emulsions. (Col. 3, l. 1 – col. 4, l. 11.)

Further, in *Heying*, the expressed intent is to add the water absorbing polymer “to the drilling fluid via a hopper or pouring the material by hand from the bag or container or by any other means suitable to adding granular particulate matter. The material is then carried down the borehole where it absorbs water, swells and the swollen material forms a ‘soft gel’ on the fissures.” (Bridging paragraph of columns 7 and 8.) *Vollmer* specifically discusses the undesirability of adding dry materials to water or aqueous brines. *Note*, for instance, the

¹ For completion of the record, Applicants re-submit the Declaration with the signed signature page of Dr. Javora. This submission does not add any issues into the examination as the re-submitted Declaration is identical to the Declaration previously submitted and since the Examiner has already fully considered the merits of Dr. Javora’s Declaration.

discussion in col. 2, ll. 32-48 of *Vollmer* relating to introduction of dry polymers to aqueous solutions. There is no reason why one of ordinary skill in the art would have been motivated to combine *Heying* and *Vollmer* since *Heying* expressly teaches the addition of a granular material to the borehole and *Vollmer* expressly states the undesirability of using solid materials to thicken brines. *See*, paragraph 10 of Declaration.

Like *Heying*, *Walker* does not disclose the presence of a viscosifying polymer. In *Walker*, a water absorbent polymer is encapsulated by a film or waxy protective casing “to prevent the polymer from absorbing water”. Once circulation has ceased, the water absorbent polymer melts, thereby “releasing the polymer to absorb water”. The resulting expanded material then “will seal off fractures and large pores.” (Col. 4, ll. 10-42). Thus, the water-absorbent composition of *Walker* is not a pumpable composition. The water-absorbent composition of *Walker* does not contain a viscosifying polymer. *See*, paragraph 11 of Declaration.

Alexander suffers from the same deficiencies. In *Alexander*, a pelletized composition is used as a lost circulation additive. The pelletized composition contains a “water-swellable absorbent resin”. It is imperative in *Alexander* that the pellets “maintain their original size as they pass through the borehole” (bridging paragraph of columns 9 and 10). The pellets of *Alexander*, like *Heying* and *Walker*, do not employ a viscosifying agent and are specifically designed to be introduced into the wellbore as a solid. *See*, paragraph 12 of Declaration.

The claims can only be properly considered as being obvious under 35 U.S.C. § 103(a) if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *Merck & Co. v. Teva Pharm. USA, Inc.*, 395 F.3d 1364, 1372-77 (Fed. Cir. 2005); *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 716 (Fed. Cir. 1991). Any obviousness inquiry requires examination of the factors set forth in *Graham*, including analysis of the scope and content of the prior art and the differences between the prior art devices and the claimed invention. *Graham*, 383 U.S. at 17-18, 86 S. Ct. 684. Such factors were reaffirmed as essential to a proper obviousness analysis. *KSR*, -- U.S. ---, 127 S.Ct. 1727, 1733-34, 167 L.Ed.2d 705 (2007). Failure of the prior art to provide motivation to combine the teachings of are proper criteria for consideration of an obviousness

inquiry. *See* MPEP § 2143.01. Such indicia may be used to rebut the Examiner's finding of obviousness. *See KSR*, at 1741.

The Examiner has failed to provide a logical basis upon which any of *Heyig*, *Walker* or *Alexander* are combinable with *Vollmer*. The Examiner has failed to consider the teachings of the references to those of skill in the art, as discussed in the Declaration. Combining prior art references without evidence of such a suggestion, teaching or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability – the essence of hindsight." *In re Dembicza*k, 175 F.3d 994, 999 (Fed. Cir. 1999) (abrogated on other grounds by *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000)).

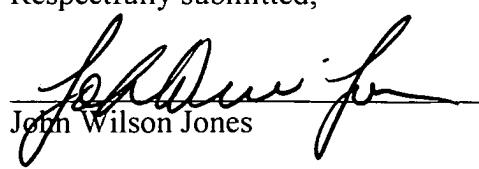
Further, the Examiner has failed to show, without resort to hindsight, that the combination of the prior art references establishes a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1098 (Fed. Cir. 1986) or a reasonable expectation that a beneficial result will be achieved through the combination. *In re Longi*, 759 F.2d 887, 897 (Fed. Cir. 1985). This is especially the case since the objective of the secondary references is *inapposite* to the objective of *Vollmer*.

In addition to failing to meet his burden of demonstrating *prima facie* case of obviousness, the Examiner has further failed to consider the proffered evidence indicative of non-obviousness as set forth in *Graham, Co. v. John Deere Co.*, 383 U.S. 1, 86 S. Ct. 684, 15 L.Ed.2d 545 (1966), as affirmed by the Supreme Court in *KSR Int'l Co. v. Teleflex Inc.*, --- U.S. --- 127 S.Ct. 1727, 1733-34, 167 L.Ed.2d 705 (2007). Such evidence provides the essential check against improper hindsight analysis. *KSR*, 127 S.Ct. at 1742-43; *Graham*, 383 U.S. at 36. The Declaration is sufficient to rebut even a *prima facie* case of obviousness.

In summary, Applicants assert that the rejection of the claims should be reversed because no incentive exists to include components of any of the secondary references relating to formation-damaging loss circulation materials (LCMs) into the fluid loss control formulations of *Vollmer*. While the secondary references may recite use of a water-absorbent polymer in drilling, the objectives and methodologies of *Vollmer* and *Heying*, *Walker* or *Alexander* in using the water-absorbent polymer are not analogous. *See*, paragraph 13 of Declaration.

Respectfully submitted,

Dated: January 7, 2008

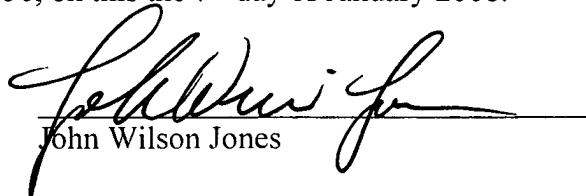

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CERTIFICATE OF MAILING UNDER 37 CFR 1.8(a)

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John Wilson Jones

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applicant:

Lopez et al

Filed: September 12, 2003

Serial No.: 10/662,159

For: Compositions for Thermal Insulation
And Methods of Using the Same



§ Group Art Unit: 1713

§ Examiner: Helen Lee Pezzuto

§ Attorney Docket No.: 020569-05801
§ (P202-1294-US)

Commissioner for Patents
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DECLARATION UNDER 37 C.F.R. § 1.132 OF PAUL H. JAVORA, Ph.D.

Dear Sir:

I, Paul H. Javora, do hereby declare and state that:

1. I am an inventor of U.S. patent application serial no. 10/662,159 ("Application"), filed on September 12, 2003.
2. I hold a Bachelor of Science degree in chemistry and a Master of Science degree in chemistry from St. John's University (New York) and a Ph.D. degree in inorganic chemistry from The University of Texas, Austin.
3. In July, 1984, I began employment with OSCA, Inc. ("OSCA"). OSCA was acquired by BJ Services Company ("BJS"), Houston, Texas, in June, 2002. I am currently employed by BJS. BJS is the assignee of Application. I am presently Project Manager, Research Technology, Completion Processes Group, at BJS.
4. Prior to my employment with OSCA, I worked for about 8 years in research and technical management positions for Magcobar Drilling Fluids, a company which specialized in drilling fluid technology.
5. I have a total of 31 years of experience in the research and development of such oilfield chemicals as completion and workover fluids, drill-in and drilling fluids, drill-in and

drilling fluid displacements, drill-in and drilling fluid filter cake removal, clear brine reclamation, and corrosion inhibitors.

6. I have read and reviewed the Office Action of 23 February 2007 rendered in the proceeding relating to Application. I have also read and understand the following references cited by the Examiner in the Office Action: U.S. Patent No. 5,785,747 ("*Vollmer*"), U.S. Patent No. 6,581,701 ("*Heying*"), U.S. Patent No. 4,664,816 ("*Walker*"), U.S. Patent No. 4,836,940 ("*Alexander*"), U.S. Patent No. 5,502,082 ("*Unger*"), U.S. Patent No. 5,965,651 ("*Ishii*") and U.S. Patent No. 5,077,336 ("*Nakashita*"). I am a co-inventor of *Vollmer*.

7. The claims of Application are directed to a thermal insulating composition containing at least one water-superabsorbent polymer, a viscosifying polymer and water and/or brine.

8. *Heying*, *Walker* and *Alexander* are each directed to lost circulation materials ("LCM") which are used to control the loss of a whole fluid, such as the mud or loss control pill, into the formation. Lost circulation materials are used in well treatment processes when drilling fluid is literally lost (i.) into fractures induced by excessive mud pressures; (ii.) into pre-existing open fractures; or (iii.) into large openings with structural strength. An enormous variety of LCMs exist and may be divided into four categories: 1) fibrous materials, such as shredded sugar cane stalks, cotton fibers, hoghair, shredded automobile tires, sawdust, etc.; 2) flaky materials, such as shredded cellophane, mica flakes, wood chips, etc.; 3) granular materials, such as ground nutshells or vitrified, expanded shale particles, etc.; and, 4) cement and other slurries whose strength increases after placement. Essentially all LCMs are particulate materials designed to plug the formation and cause significant, severe formation damage. LCM's are therefore designed to plug the formation and prevent further loss of fluid.

9. *Vollmer* discloses a method of preventing fluid loss wherein a brine is thickened with a viscosifier based composition. The term "fluid loss" in the industry (and in *Vollmer*) refers to the loss of the filtrate or the liquid portion of a fluid into the formation wherein the fluid is a mud, brine or fluid loss control pill. In contrast to LCMs which cause damage to the formation, the fluid loss control additives of *Vollmer* are designed to be non-damaging. In addition to not creating formation damage, the additives of *Vollmer*, which are used to viscosify low- and high- density brines, do not evidence the compatibility problems seen in the prior art.

10. *Heying* is directed to the addition of dry materials to water or aqueous brines. *Vollmer* specifically discusses the undesirability of adding dry materials to water or aqueous brines. There is no reason why one of ordinary skill in the art would have been motivated to combine *Heying* and *Vollmer* since *Heying* expressly teaches the addition of a granular material to the borehole and *Vollmer* expressly states the undesirability of using solid materials to thicken brines. Neither would one of skill in the art have been motivated to use a water-superabsorbent polymer as a component of a pumpable composition containing a viscosifying polymer based on the teaching of *Heying*.

11. *Walker*, like *Heying*, does not disclose the presence of a viscosifying polymer. In *Walker*, a water absorbent polymer is encapsulated by a film or waxy protective casing such that the water absorbent polymer melts once circulation has terminated. The polymer is then released to absorb water. The resulting expanded material then functions to seal off fractures and large pores. Like *Heying*, the water-absorbent composition of *Walker* is not pumpable.

12. *Alexander* discloses a pelletized composition for use as a lost circulation additive. The pelletized composition contains a “water-swellable absorbent resin”. The pellets of *Alexander* maintain their original size as they pass through the borehole. The pelletized composition of *Alexander* does not contain a viscosifying polymer. Nor is the composition of *Alexander* pumpable.

13. In light of the above paragraphs, the fluid loss control method addressed in *Vollmer* and the LCM methodology of *Heying*, *Walker* and *Alexander* are two different and distinct approaches to control the loss of a fluid in a subterranean formation. There is no correlation between the two approaches and the materials used in these methods. The objectives and methodologies of *Vollmer* and *Heying*, *Walker* or *Alexander* in using the water-absorbent polymer are not analogous and one of ordinary skill in the art would not have been motivated to combine any of *Heying*, *Walker* or *Alexander* with *Vollmer* to render a pumpable thermal insulating composition. The use of LCMs, which cause formation damage, is inconsistent with the objectives of *Vollmer*. Thus, one of skill in the art would not have been motivated to search the literature for formation-damaging loss circulation materials (LCMs) for their inclusion in the formulations of *Vollmer*, designed to be non-damaging.

14. *Unger* discloses a process of making a solid crosslinked highly-porous superabsorbent polymer which exhibits high compressive strength. The resulting product is a

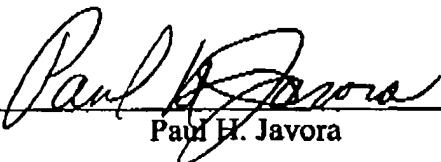
solid absorbent having a hollow matrix which is capable of entrapping air. The hydrogel disclosed in *Unger* is not a superabsorbent. Instead, the solid crosslinked porous absorbent body of *Unger*, derived from the hydrogel, is the superabsorbent. Note that the gelling agent functions as the crosslinking agent and the gelling agent is added to the hydrogel in order to form the crosslinked polymer which, in turn, when dried, is the superabsorbent. In other words, the absorbent material in *Unger* is the final reaction product of pregel and crosslinking agent; the hydrogel serving as a building block to make the porous solid. The thermal insulating composition of Application is pumpable and contains the superabsorbent. *Unger* does not disclose a pumpable composition containing a superabsorbent.

15. *Ishii* also discloses a process of making an absorbent material. *Ishii* discloses that the combination of superabsorbent polymer and viscosifying polymer render a "liquid-absorbing material composition", illustrated in Examples 1-7. This composition is *not* a liquid absorbent material. Claim 1 of *Ishii* clearly states the invention to be "a composition for preparing a liquid-absorbing material". The liquid-absorbing material in *Ishii* is the molded product.

16. *Nakashita* discloses a composition containing a plasticizer, water-soluble or absorbing gel and polyvinyl chloride. An emulsifier is further required in order to properly mix the water-soluble gel or suspension and polyvinyl chloride. The resulting product is a flexible rubber which is capable of retaining its shape. The compositions of Application are pumpable and thus could not behave like rubber. Further, *Nakashita* does not disclose a composition of a water-absorbent polymer and a viscosifying agent.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

DATED: 5/23/07
May 23, 2007


Paul H. Javora